

Cracklin' Static

December 2021 Edition



**Zoom Virtual
Meeting Sat Dec 4
AM
See pg 4....**

SNARS NET on DMR – Tuesdays 8pm
DMR Talk Group: 31328 SNARS

SNARS Treasury Closing Balances As of 11/26/2021

Account	
Operating	\$ 10,553
Savings	\$ 17,683
Self Insurance	\$ 13,340
PayPal	\$ 935
Convention	\$ 4,212
Total	\$ 46,723

Net Monthly	\$ 195
Net YTD	\$ 11,406

Membership Renewals 12

SNARS Membership as of 11-27-21

Extra	169	36%
General	152	32%
Technician	123	26%
Advanced	15	3%
No License	10	2%

Total 469

SNARS ARRL Members

Regular	268	57%
Life	43	9%

PRESIDENT'S VOICE

President John Byerly, N7ROJ

Email: mtnlion@gmail.com



I hope everyone had a great thanksgiving, and you have had your fill of turkey and stuffing. The holidays are upon us and however you celebrate, I wish you the best season.

One of the things I want to remind you of is the Board of directors elections. They close the morning of our December meeting. Please take the time to vote so your voice can be heard.

After the election, at the next board of directors meeting, the board will select their new officers. As I have said last year when I was elected president of the club again, I will not run for another term. It has been an honor and a privilege to serve as the president of SNARS. But,

the time has come for a change. New ideas, and frankly someone else to sit in the "Hot Seat".

I am proud of all the club has accomplished. None of that would be possible without the volunteers, staff and officers of the club. I want to thank each and every one of you for all you do to forward SNARS as well as our hobby of Amateur Radio.

I have another year in my term as a board member to decide if I will run again for the board. I will focus on being a board member, and all of the projects we need to get done. Hopefully, the repeaters will arrive soon and myself and the tech team can get them installed and running. It will be an amazing upgrade for our aging repeater network.

Tony W7XM is forming a meeting committee to concentrate an effort on finding a home for in-person meetings. Unless things change drastically, we aren't going to have a "Breakfast meeting" anytime soon, so he is leading the charge to figure out ways to get us together. If interested in helping, please reach out to him.

All my best wishes for a wonderful holiday season!

John N7ROJ



PO BOX 7727 Reno NV 89510
 Yearly Dues: \$40.00 Individual • \$50.00 Family
 775.453.4142 <http://snars.org>

2020 Officers

President.....John Byerly, N7ROJ
 Vice-President.....John Miller N7JDM
 Treasurer.....Bill Jones, AE7OX
 Secretary.....Anthony Marcin, W7XM
 DirectorWes Vick, KG7QXE
 DirectorJim Shepherd, W6US
 DirectorBarry Bettman, K6ST

2020 Staff

Cracklin Static Howie Holden, WB2AWQ
 W7TA Trustee Peter DeBay, KE7VSR
 KR7ENO Trustee..... Howie Holden, WB2AWQ
 Control Operator Pat Sheehan, W7DED
 Youth Involvement..... Barry Bettman K6ST
 NVQSO Coordinator..... Jim Shepherd, W6US
 Historian Jon Fox, KF7KTC
 Tech Team Lead Pat Sheehan, W7DED
 Membership Kim Farnham, KG7TMA
 PIO Greg Krantz, NT7Q
 VE Coordinator..... Krystal Rhoades, AJ6GC
 Meeting Greeter Bill Jones, AE7OX
 Noon Net Manager Wes Vick, KG7QXE
 DMR Net Manager Anthony Marcin, W7XM
 Reno Ham Swap Vacant
 Webmaster Erik Andreasen, K6CZH
 Club Sales Manager..... Julie Dodge, N7JWL
 Recording Secretary..... Doug Edmondo, W7DBE

Cracklin Static Publication

Editor: Howie Holden WB2AWQ - holden7471@msn.com

Cracklin' Static is the Newsletter of, and sponsored by the Sierra Nevada Amateur Radio Society. Published the week before meetings. Opinions expressed herein are those of the editors and contributors and should not be considered as official expressions of the Club Officers, Staff or Club Members, or as endorsements by same.

Material for publication may be edited to enhance readability or to save space. We reserve the right to use whatever font size, line spacing or other tools as may be required to publish this Newsletter. **Deadline for input to the newsletter is 1500 hours on the Sunday** prior to the 1st Saturday of each month.

SNARS Wide Area Linked System

147.030 + PL 123.0	Sparks, Fernley, Fallon	Online
147.210 + PL 100.0	Reno, Sparks	Online
147.150 + PL 123.0	Lake Tahoe, Truckee, Carson	Online
146.925 - PL 123.0	Lovelock, Fallon	Online
146.670 - PL 123.0	Winnemucca	Online
444.875 + PL 100.0	Yerington	Online
444.125 + PL 123.0	Reno Sparks	Offline

DMR Systems

444.925 + CC 1	Reno, Sparks	Online
444.825 + CC 1	Dayton, Fallon, Carson	Online
443.925 + CC 1	Lake Tahoe, Truckee, Carson	Online
443.950 + CC 1	Incline Village	Online
442.875 + CC 1	Sparks, Fernley, Fallon	Online
442.850 + CC 1	Downtown Reno	Online
441.950 + CC 1	Fallon, Fernley	Offline

Fusion Systems

146.610 - PL 123.0	Reno, Carson, Dayton	Online
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IRLP / EchoLink Systems

147.300 + PL 123.0	Reno, Sparks	Online
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Packet / APRS

145.050 - RNO	Reno, Carson, Dayton	Online
145.050 - ROSE	Lake Tahoe, Truckee, Carson	Online
144.390 - TOULON	Lovelock, Fallon	Online

Standalone Systems

147.390 + PL 100.0	Reno, Carson, Dayton	Online
443.075 + PL 123.0	Reno, Carson, Dayton	Online
927.0875 + PL 114.8	Reno, Carson, Dayton	Online

Online
 Offline
 Not Linked

Weekday on the SNARS Linked System

147.030 + PL 123 – Sparks/Fernley
 147.150 + PL123.0 – Lake Tahoe / Truckee
 147.210 + PL 100.0 - Reno
 444.875 + PL 100.0 - Yerington
 146.925 - 123.0 – Lovelock / Fallon
 146.67 – PL 123.0 - Winnemucca

Monday through Friday @ 12:00pm

Open to all amateur radio operators. A general informational net for the amateur radio community of Northern Nevada and Eastern California. Radio Checks and Questions are welcomed.

Nets on the SNARS Linked Systems

147.210 + 100.0 | 147.030 + 123.0 | 147.150 + 123.0
 147.670 – 123.0 | 146.925 – 123.0 | 444.875 + 100.0

ERC Net for NV and Northern CA	Monday @ 9:15pm
N. Western NV ARES Net	Thursday at 7:30pm
Northern Nevada Preppers Net	Wednesday @ 8:00PM
Hospital Net	Friday @ 10:00AM

Nets on IRLP (GSR) System

Repeater: 147.300 + 123.0

Amateur Radio Newline	Monday - 8:00PM
Nevada Skywarn Net	Wednesday - 7:00pm

Nets on Simplex/HF

Jefferson Noon Net	7.204 LSB	Daily - 12:00pm
6 Meter Net	50.350 USB	Tuesday – 8:00pm
2 Meter Weak Signal	144.250 USB	Wednesday - 8:00PM
2 Meter Simplex Net	146.500 FM	Thursday – 8:00PM
10 Meter Net	28.350 USB	Sunday – 2:00PM

SNARS Weekly DMR Net – Tuesdays
 8:00PM

SNARS Talk Group 31328

Open to Members and Guests. A general information net each week on DMR.

SNARS CALENDAR

SNARS Board Meeting Wednesday, December 8,
 6:00PM Location and mode Chin Chin, Sparks, and Zoom

One Day Class (Hamcram) Sat, December 11, 8am –
 12pm 5195 Spectrum Blvd, Reno, NV Visit:
<http://snars.org/oneday> for more information

SNARS VE Session December 11th, 2021 9:30AM, REOC
 Training Center 5190 Spectrum Blvd, Reno

HAM RADIO NIGHT on Zoom December 20, 7:00 PM ,
 see <https://snars.org/hamradionight/>

Reno QRP Group Tuesday December 21, 2021, 11 AM.
 Jacks #2 on Wells and 6th St.

Next months SNARS Breakfast Meeting Jan 8, 2022. Location and media mode tentative depending on Board decision and local restrictions.

WELCOME NEW MEMBERS

AS OF 11-27-21

Chuck	McGraw	KK7BKS
Jeff	Resler	KK7BWJ
Matthew	Caviglia	KG7LYH
Greg	Beltran	KK7ASI
Jason	Merriam	K6JSN
Ryan	Ward	KK7AZI
David	Johnson	K7DMJ

SNARS Virtual Monthly Meeting

SNARS (virtual on zoom conferencing) Monthly Meeting on
Saturday 12-4-21 8:00AM PST

Presentation:

**ATV (Amateur Television) with
Roland KC6JPG**



Roland Hoffman - KC6JPG



Roland has been a HAM radio operator since 1990 and currently holds an Extra Class license. He began his electronics career as a broadcast engineer working at television stations and video production companies since 1987. Roland lived through the changes from analog NTSB SD into the multitudes of digital formats from HDMI, HD-SDI, ATSC, 8VSB, DVB-S, DVB-T, and ATSC 3.0 we are experiencing today.

Roland began to explore the amateur television (ATV) segment of HAM radio in November, 1993 as he discovered the Mount Wilson ATV repeater in Southern California would "broadcast" the NASA Select video feed during the Space Shuttle events. Interested in watching the space shuttle activities, he acquired an ATV downconverter and a beam antenna in order to view the Mt. Wilson feed. After assembling his "ATV receive station," he turned on his television monitor and his ATV downconverter in hopes to watch the shuttle astronauts. Instead of astronauts, he received a snowy picture of a man rocking in a chair, bearing the callsign KA6DPS - Dave in Nuevo, CA. Dave was transmitting to the Santiago Peak ATV repeater. Roland immediately went up to the rooftop of his QTH, turned his beam antenna towards the Santiago Peak repeater to obtain a better signal. Back in the shack, he received the Santiago Peak video signal P5 (perfect picture) and made contact with Dave via the 2 meter voice link. The rest is history.

Today, Roland is the Net Control for the Amateur Television Network's "The Weekly Net," (Wednesdays at 0330 UTC / Tuesdays at 7:30pm Pacific Standard Time) as ATV'ers from around the world are able to check-in via video into the ATN repeater systems throughout the southwestern United States, as well as our ATN chapter ATV repeaters throughout the world. Roland is also the Digital Systems Director by assisting our ATN technical team with our digital upgrades and installations as we transition from NTSB standard definition (analog) technology to high definition - digital DVB-T modulation throughout our ATN repeater network.

Roland is also involved with his community as he is an active CERT / RACES radio operator for the City of Rancho Cucamonga, Upland, and Claremont in Southern California.

When Roland is not "pushing the pickle," he is also an ultra-marathon cyclist, participating in extreme long distance road bicycle races and events, and enjoys restoring classic cars.

TO REGISTER, go to:

https://us06web.zoom.us/meeting/register/tZEldOGqTkrGdA4pQkK7ePN-cz6ku3ct_c3

Any questions, email Barry k6st@arrrl.net

THE NAME OF THE GAME

Jim Shepherd, W6US nvjims@gmail.com

BALUNS, RF TRANSFORMERS, UNUNS, AND CHOKES.....

So you are having problems with your new antenna, high SWR and poor performance... How do you help improve the situation?

Good antenna systems are resonant on the desired frequency and have the proper impedance match to the output of the transmitter. Most ham radios are designed to have an output impedance of 50 ohms. Anything more or less will result in some of the power reflected back into the radio which can actually cause problems. On the other hand, most antennas do not have characteristic impedance of 50 ohms. The basic dipole is around 72 ohms when installed about a wavelength above good ground. An inverted V with a 90 degree angle between the legs will be 50 ohms at resonance at that same height. Unfortunately, virtually no one here in this area has the necessary supports to hold the wires at a wavelength height on 40 or 80 meters. Putting them up lower will definitely change the characteristic impedance. In addition, direct connection of a coax to the dipole will actually make the leg attached to the shield a whole lot longer as that shield will become part of the antenna.

Here is where a balun comes into play. It will change the balanced dipole to the unbalanced coax line, hence its name balun. It can also be designed to be a RF transformer to match the impedance. In the case of our dipoles, inverted V or flat top, usually a 1:1 balun will be sufficient as most radios will work well with the 50-72 ohm range. If the antenna is not used on the resonant frequency, a different ratio balun may be necessary to get a good match.

Now look at a random wire end fed antenna, and it can have impedances all over the map and they change with the frequency. It is also an unbalanced antenna, so an unun is used as a RF transformer along with a variable capacitor and counterpoise to make the match at the antenna. The 9:1 unun is the most popular used ratio, but some of the higher ratio ones are also popular for this type of antenna.

The shield of the coax feedline can act as an antenna, not only on your intended band, but on all bands. This can lead to excess noise, RF on the equipment in the shack, and other unwanted places, as well as creating problems with tuning the antenna. These common mode signals can be eliminated with

RF chokes. There are several ways to add chokes to your system.

Ferrites make great chokes. There are beads that can be installed on the coax before connectors are attached and split beads that can be snapped on over the coax if the connectors are already installed. You will need to add several beads at each end. Manufacturers like Palomar Engineers make chokes with the connectors so that they can be inserted in the line at your transmitter and the antenna. Some baluns will also be built with an included choke. There are also large ferrite rings that can be wound with smaller coax like RG58 to make a choke. Even creating a coil of coax with 5-10 turns a little bigger than the minimum bending radius for the coax is also very effective.

Ferrites come in several 'mixes' depending upon their intended use. Mix 31 is the best for common mode chokes in the HF to VHF bands. Mix 43 is a better choice for transformers (baluns and ununs) in the HF bands especially for 4:1 or greater ratios. Mix 75 will be your best choice if you live next to an AM broadcast station and you need to get rid of their signal off of your feedlines using them as a common mode choke.

The use of ferrites to remove noise is not limited to your feedlines. Placing them on your power cables, computer connections, and almost every other wire in your ham shack can do wonders for your received noise levels. Smaller wires like the ones coming out of wall warts can make several loops in a snap on ferrite for more reduction of the noise. Don't overlook other possible noise sources around the house.

Baluns, ununs, and chokes can add to your station with their use. They can be easily constructed and installed to improve you signal and reduce noise.



150 watt 1:1 balun for dipole antennas. Photo from <https://www.hfkits.com/manual-for-11-balun-150-watt-for-dipole-antennas/>

MIKE'S MISSIVES CHAPTER SIXTY TWO

Mike Katz, N7MSK

FCC PART §97.203 Beacon station.

- (a) Any amateur station licensed to a holder of a Technician, General, Advanced or Amateur Extra Class operator license may be a beacon. A holder of a Technician, General, Advanced or Amateur Extra Class operator license may be the control operator of a beacon, subject to the privileges of the class of operator license held.
- (b) A beacon must not concurrently transmit on more than 1 channel in the same amateur service frequency band, from the same station location.
- (c) The transmitter power of a beacon must not exceed 100 W.
- (d) A beacon may be automatically controlled while it is transmitting on the 28.20-28.30 MHz, 50.06-50.08 MHz, 144.275-144.300 MHz, 222.05-222.06 MHz or 432.300-432.400 MHz segments, or on the 33 cm and shorter wavelength bands.
- (e) Before establishing an automatically controlled beacon in the National Radio Quiet Zone or before changing the transmitting frequency, transmitter power, antenna height or directivity, the station licensee must give written notification thereof to the Interference Office, National Radio Astronomy Observatory, P.O. Box 2, Green Bank, WV 24944.
- (1) The notification must include the geographical coordinates of the antenna, antenna ground elevation above mean sea level (AMSL), antenna center of radiation above ground level (AGL), antenna directivity, proposed frequency, type of emission, and transmitter power.
- (2) If an objection to the proposed operation is received by the FCC from the National Radio Astronomy Observatory at Green Bank, Pocahontas County, WV, for itself or on behalf of the Naval Research Laboratory at Sugar Grove, Pendleton County, WV, within 20 days from the date of notification, the FCC will consider all aspects of the problem and take whatever action is deemed appropriate.
- (f) A beacon must cease transmissions upon notification by a Regional Director that the station is operating improperly or causing undue interference to other operations. The beacon may not resume transmitting without prior approval of the Regional Director.
- (g) A beacon may transmit one-way communications.

SHORT TAKES (By Jim Shepherd W6US)

CONTEST CALENDAR

The month starts out with the FT Roundup on Saturday, December 12 at 10:00 local time. It uses FT8 and FT4 and runs to 1600 on Sunday. The following weekend is the ARRL 10 Meter contest. Every licensed ham can participate in this contest. It runs from 4pm on Friday, December 10 until 4pm on Sunday. Both CW and SSB are the allowed modes. Being an ARRL contest, if you want your scores to count for a combined SNARS score, you must have your callsign and 6 digit grid zone on file with me before the Thursday of the contest so I can send it to the ARRL. If you have signed up in the past, I have the record, but if this is the first time, please send me the information at nvjims@gmail.com. December 17 to 19 is the ARRL EME contest for moonbouncing. Power, a high gain yagi antenna, and the WSJT-X modes can get you into this contest. Any day now, the results for the Nevada QSO party will be posted on the <http://nvqso.com/> website. It is not really a contest, but January 1 is the

CW straight Key Night. These and other contests information can be found at <https://www.contestcalendar.com/contestcal.html>

DX

There are some operations starting to pick up. Zimbabwe, Kenya, and Burkina Faso are some of the featured DX operations out of Africa. At the end of the month, there is possibly going to be an activation of Bouvet Island. More information can be found at <https://www.ng3k.com/Misc/adxo.html>

THIRD MONDAY ZOOM HAM RADIO NIGHT

We will have our popular Ham Radio Nights via ZOOM to get your questions answered. It will be held at 7pm on Monday, December 20. More information, including the link will be published before that date.

NAME THAT RIG?

(Answer on page 9)



K7RAW FOLLOWUP

SEMINAR SERIES: Antenna Systems Demystified

with Rudi Wiedemann, K7RAW <rudi@wiedemann.cc>

Last month at the SNARS virtual monthly meeting, I gave a presentation about the NanoVNA and applications for antennas.

For those that want to watch the video recordings, here they are:

Meeting Presentation November 6, 2021

<https://youtu.be/vzKUQUjvpvI>

Open Q&A Session November 6, 2021

<https://youtu.be/0pwKG9uh4cc>

At the end of my presentation, we did a poll and learned that many SNARS members and guests are interested in more education. Most people's understanding of antennas comes from anecdotes or hearsay. Very few hams actually understand their antennas, and why they do (or don't) perform well for them. They just "mess around" for a while and eventually settle for whatever they end up with after impatience and fatigue set in. Antennas are treated like "black magic". This process is TOTALLY UNNECESSARY. Getting the most out of your antenna can make a huge difference in the number and quality of contacts. This series will empower you to do just that.

SERIES DESCRIPTION: This is a series of Zoom Seminars and hands-on Workshops to establish a sound understanding of fundamental

antenna system concepts, tools and techniques. The objective is to empower hams to better "call their shots" with antennas and end up with a much better solution, often for lower cost (eg-make vs buy).

SEMINAR #1: "Antenna System Foundations" (Watch the SNARS video on the NanoVNA on YouTube to get the most out of this) on Saturday December 11th, 2021 8a - 12p PST on zoom.

In this kickoff session you'll gain a solid understanding of antenna concepts. A lot of things that were fuzzy before will now become clear. We'll focus on the "low hanging fruit" to get the biggest bang-for-buck for your time and subsequent efforts with your antenna system. You'll also be able to better understand how to improve your current antenna setup. We'll cover antenna analysis, impedance matching, matching circuits, antenna "tuners" and devices like Current Chokes and BalUns/UnUns.

Future sessions will dig deeper including modeling, simulation, analysis and optimization. Subsequent Seminars will build on that. The Workshops will focus on actual building and testing some of the most practical devices for getting the most out of antenna systems. These include making your own current chokes, multi-ratio baluns, 4-way L-Network matching circuits, and much more.

To register for the free SEMINAR #1: "Antenna System Foundations" on Saturday December 11, 2021 8a - 12p PST, click

[HERE](#)

We look forward to having you participants in this education training.

73 Rudi K7RAW

YOUTH INVOLVEMENT

ARRL KIDS DAY - January 1st, 2022

About Kids Day

Twice a year, ARRL offers an event designed to promote Amateur Radio to our youth. Share the excitement with your kids or grandkids, a Scout troop, a church or the general public! Kids Day is designed to give on-the-air experience to young people and hopefully foster interest in getting a license of their own. It is also intended to give older hams a chance to share their station and love for Amateur Radio with their children.

Mark your calendar for January 1st 2022 and get some kids on the air.
73,

Barry K6ST

Nevada Section Youth Coordinator,

ARRL (American Radio Relay League) www.arrl.org



W7SSB's FUN STUFF

RADIO CLUB HISTORY

First National Ham Radio Clubs & Societies

As amateur radio took hold as an interest, so too clubs and societies started to be formed. National societies were also started around the globe.

As the number of amateur radio experimenters started to increase, so people started to meet to discuss their common interest. First local clubs and societies were formed, but after a while, national clubs were formed that were able to provide more support and represent the interests of members better. Often the first amateur radio societies started as local clubs with then amalgamated to become larger ones, or they met in the capital of the country. Clubs and societies were formed in many countries, although the first one national amateur radio society seems to have been formed in Australia.

First national amateur radio society: WIA

What is now called the Wireless Institute of Australia was the first national amateur radio society to be formed. Like many of the first amateur radio clubs and societies, the Wireless Institute of Australia had humble beginnings. It started when a group of wireless enthusiasts met together in March 1910 in Sydney. The group was a complete mixture of people from school boy amateur electrician experimenters through to academics and members of the defence forces. There were 50 people at this first meeting of the society, although between 1905 and 1910 only ten wireless stations had been licensed by the government in Australia. However this had not dampened the enthusiasm of the attendees.

There were two leading lights at this first meeting of the society: George Taylor who had called the meeting and was already a member of the newly formed Aerial (Aviation) League of Australia. He saw wireless as an important part of aviation. The other person was Walter Hannan. He was an experienced electrician, and he had already demonstrated his home made wireless equipment, but had been unable to obtain a license that would enable him to legally make contact with others. He later became the first secretary of the Wireless Institute of Australia.

A similar group was also formed in Melbourne in 1911. It initially took the name of Amateur Wireless Society of Victoria. In addition to this, other groups were formed around Australia, but with the onset of World War 1, all wireless activities ceased and radio societies, clubs and associations generally became moribund.

Following the war, it took a number of years before activities fully returned to normal. Wireless societies (now all generally known as Wireless Institutes) in the various Australian states reformed and then in May 1924 a meeting took place in the Melbourne Town Hall to formalise a national association for Australia. The meeting aimed to establish a federation of the Wireless Institutes organisations that existed in the various states within Australia. Accordingly the Federated Wireless Institute of Australia came into being, known as the WIA, the name it has today. In this way the WIA can trace its heritage back to the meeting in March 1910.

Radio Society of Great Britain formed

Within the UK a similar path was adopted for the formation of the early national radio society within the UK.

With interest in wireless experimentation growing, many enthusiasts met together to discuss their common interests as in Australia.

The Radio Society of Great Britain, RSGB traces its roots back to the formation of London Wireless Club, that held its first meeting in

West Hampstead, London, on 5 July 1913.

Later in the same year, the club decided that its name should be changed from London Wireless Club to the Wireless Society of London.

The inauguration of the club came only shortly before the start of the First World War, and with the suspension of amateur wireless licenses in 1914, the activities of the club were placed into suspended animation for the duration.

As activities started to recommence, so too did activities of the society. Then in November 1922, the society changed its name to the Radio Society of Great Britain to reflect the national nature of the work of the society.

The RSGB was not necessarily the first amateur radio society in the UK. The Manchester Wireless Society was founded in 1911 and possibly the first national amateur radio society in Britain was the British Wireless Relay League. This organization held the callsign 2ZZ which was granted in August 1920. Later this society was amalgamated with the Transmitting and Receiving (T & R) section of the RSGB.

American Radio Relay League started

In many respects the name of the American national radio society seems to have an interesting name. Whilst the name of this national amateur radio organisation may seem unusual, the name reflects the way in which it started and the way that amateur experimenters were able to send messages over the vast distances within the USA.

The ARRL, American Radio Relay League was founded was founded in 6th April 1914 by Hiram Percy Maxim of Hartford, Connecticut. Maxim was a prominent businessman, but also a keen radio amateur or radio experimenter of the time and a member of the Radio Club of Hartford in Connecticut, USA.

The ARRL came about because of the distances people wanted to send messages and the limited range of amateur radio stations of the time. Maxim had wanted to send a message to another station but was unable to do so, and asked an intermediate station to forward on a message, i.e. relay it to another station. In view of the distances across the USA, this could be a very valuable capability.

Maxim had the idea of forming a league of stations that could relay radio amateur's messages. In April 1914, he proposed a plan for the organization of a roster or league of stations that would be able to relay messages over large distances. The plan was agreed by the Hartford club and application forms were sent out to as many stations as could be reached. The league grew and many stations were included within it.

Then in February 1915, the American Radio Relay League as it was known, split off from the Hartford club after some disagreements. It incorporated under Connecticut law and although initially finances were very tight, it survived and grew.

The membership grew, and the League set up six trunk lines to relay messages in both north-south and east-west directions. As proof of its effectiveness a message was sent from New York to Los Angeles in 1916, and a reply was received within 1 hour and twenty minutes.

Then in 1917, the League reorganized and opened its membership up to anyone interested in radio. This effectively made it the national amateur radio society within the USA. However this success did not last for long as amateur radio activities were stopped as the USA entered the First World War.

After the war, the ARRL petitioned the USA government to allow the re-commencement of activities. Although finances were poor as a result of the suspension of activities for the war, it refinanced, restarted, and membership grew rapidly.

(Continued on next page.....)

Other national wireless societies formed

There are very many national amateur radio societies in existence today.

Many started around the same time as the WIA, RSGB and ARRL. These three examples have been given for a variety of reasons, but others like the French REF, German DARC, and very many others have their origins in the beginnings of amateur radio.

Today these societies represent the amateur radio community, striving to maintain and improve the facilities available and providing valuable facilities and resources: everything from magazines to QSL bureaux, advice, information and much more.

In 1908, students at Columbia University formed the Wireless Telegraph Club of Columbia University, now the **Columbia University Amateur Radio Club**. This is the earliest recorded formation of an amateur radio club, collegiate or otherwise.

We should learn about and support other clubs !

Harvard University Amateur Radio Club History

<http://w1af.harvard.edu/php/history.php>

Worcester Poly Tech Amateur Radio Club W1AF (the first operational amateur radio station).



W1YK was several miles from my home QTH and I would talk with the

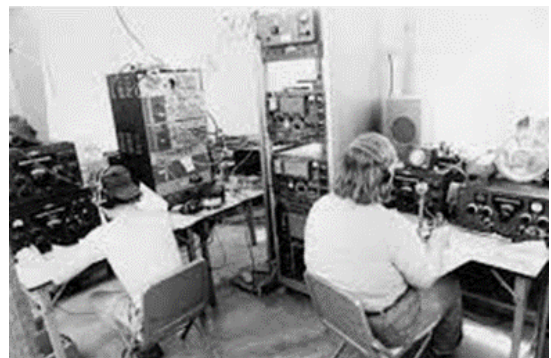


club station often .

<http://wpi.wpi.edu/about.html#:~:text=The%20Worcester%20Polytechnic%20Institute%20Wireless,group%20of%2040%20other%20men.&text=This%20makes%20WPI%20the%20first,station%20in%20the%20United%20States.>

MIT Amateur Radio Club W1MX

Established in 1909, W1MX (originally 1MX) is believed to be the oldest college amateur radio station in the United States. The history of broadcast radio at MIT began as a **campus-only AM broadcast when WMIT signed on in 1946**. Students not only ran the station, but also built its equipment.



I hope you enjoy a little of our radio history !

As always stay tuned !
Don W7SSB

NAME THAT RIG (from page 6)

In 1963, the fledgling company **Sideband Engineers, Inc.**, founded by Faust Gonset of Gonset fame, came out with the first practical (mostly) transistorized HF transceiver, the **SBE-33**. Utilizing 19 solid state devices and three tubes, it covered 80 through 15 meters, SSB only. It featured 135W PEP input running a pair of (today unobtainium) PL500/27GB5 sweep tubes. It was superseded the following year by the SBE-34 transceiver, which corrected some ills of the **SBE-33**. That, in turn, was followed by the SB-36, which featured a nixie-tube digital readout, covered up through 10 meters, added CW, and upped the power to 200+W PEP output. The SB-36 lasted into the early 1970s, but SBE, like so many other American manufacturers, succumbed to the influx of lower cost hybrid transceivers from Japan, mostly by Kenwood and Yaesu. Few SBE transceivers exist today, making them fairly costly on the used market.

FIELD DAY FINAL WRAP UP

The results are in! This year our main operation at Washoe Lake State Park again took the First Place position in Nevada with a score of 2472, but it was only by a margin of 2 points... Amargosa Amateur Radio Club put on a strong showing and actually had more contacts, but our strong showing with digital and CW contacts gave us the lead. We were also 4th in the nation in the 7A category.

In third place was the dynamic duo of WB2AWQ, Howie, and KB2SFS, Ken, operating CW from home. Other SNARS members also operating individually were W6DSG, KG7QXE, and W4FLL. The composite score of all the SNARS operations combined was 5458. Last year our combined score was 5357 with 11 operations.

Thanks to everyone who helped make this a great success!

Jim Shepherd W6US, SNARS Field Day Coordinator

FUN STUFF FOR DECEMBER

December, like November, actually has NO state QSO parties! Not a whole lot of major contests except for some ARRL ones, listed in BOLD, plus the top band Stew Perry contest and the RAC Canada contest (help out our Canadian friends, they do so much with our state parties!)

3 Dec 2200 to 5 Dec 1559 1.8 ARRL 160-Meter Contest CW

www.arrl.org/160-meter

11 Dec 0000 to 12 Dec 2359 28 ARRL 10-Meter Contest CW Ph

www.arrl.org/10-meter

18 Dec 0000 to 18 Dec 2359 1.8-144 RAC Winter Contest CW Ph

www.rac.ca/contesting

18 Dec 0000 to 19 Dec 2359 50-1296 ARRL EME Contest CW Ph Dig

www.arrl.org/eme-contest

18 Dec 1500 to 19 Dec 1500 1.8 Stew Perry Topband Challenge CW

www.kkn.net/stew

19 Dec 1800 to 19 Dec 2359 3.5-28 ARRL Rookie Roundup, CW

<http://www.arrl.org/rookie-roundup>

Check out the rest here:

<http://www.arrl.org/files/file/Contest%20Corral/2021/December%202021%20Corral.pdf>

If you're not into contests, there's always DX to chase! The list is small as it usually is for December. Looks like Africa is on tap though! On Bouvet Island - #2 most wanted - check often, as this is in about the most remote, foulest weather place on Earth, and subject to cancellation. Dates are tentative!

Dec 02 to Dec 15	Zimbabwe	Z2
Dec 02 to Dec 16	Kenya	5Z4
Dec 03 to Dec 20	Burkina Faso	XT2AW
Dec 16 to Dec 22	Bangladesh	S21DX
Dec 25 to Jan 25	Bouvet I	3Y0I

Check <https://www.ng3k.com/Misc/adxo.html> for updates on DXpeditions to make sure they're still a go!

RENO QRP SLOW SPEED CW NET

NEXT NET SESSIONS WILL BE December 2 at 11 AM PDT. Target frequency 7.045 MHz, if busy search somewhere near that frequency. Possible nets Dec 16 and 30. Check with wd7y@sbcglobal.net

THE FOLLOWING SHOULD ALWAYS BE IN YOUR REPORT:

NAME, RST, LOCATION, RIG, POWER, ANTENNA.

REMEMBER TO INCLUDE RST IN YOUR REPORT

Feel free to add something else in your exchange.

Take some time to report RST for other OP's or anything else that comes to mind.

Sharing information about you and your equipment will accomplish two things.

First It gives you and everybody else practice sending and copying.

Second It is nice to spend time on the air with your friends. Consider this a QRP meeting on the air.

Relax and have some airtime fun with your friends.

SNARS - Sierra Nevada Amateur Radio Society, Inc—<http://snars.org>

73/72 Ed/WD7Y

SKYWARN RECOGNITION DAY

SKYWARNtm Recognition Day was developed in 1999 by the National Weather Service and the American Radio Relay League. It celebrates the contribution that **SKYWARNtm** volunteers make to the NWS mission, the protection of life and property.



Amateur radio operators comprise a large percentage of the **SKYWARNtm** volunteers across the country. The Amateur radio operators also provide vital communication between the NWS and emergency management if normal communications become inoperative.

All **SKYWARNtm** spotters provide critical weather information before, during and after adverse weather strikes. This includes reports of rain and snow, ice and wind, storms and tornadoes, floods and fire. This is our 24 hours to recognize all of the **SKYWARNtm** spotters serving our nation!

Have you ever wondered where our **SKYWARNtm** spotters are across the country? We have thousands of spotters from coast to coast and beyond that help the National Weather Service protect our communities from hazardous weather.

SKYWARNTM Recognition Day Operating Instructions

1. Object: **SKYWARNTM Recognition Day** serves to celebrate the contributions to public safety made by amateur radio operators Skywarn Spotters during threatening weather.

- Amateur stations to exchange QSO information with as many National Weather Service Stations as possible on 80, 40, 20, 15, 10, 6, and 2 meter bands plus the 70 centimeter band. Contacts via repeaters are permitted.

- Non-Amateur Radio Spotters to exchange weather information as often as possible via Social Media with NWS Offices.

2. Date: NWS stations may operate at any time during December 4, 2021 from 0000 - 2400 UTC.

3. Exchange: Call sign, signal report, QTH, and a one or two word description of the weather occurring at your site ("sunny", "partly cloudy", "windy", etc.).

4. Modes: NWS stations will work various modes including SSB, FM, AM, RTTY, CW, and PSK31. While working digital modes, special event stations will append "NWS" to their call sign (e.g., N0A/NWS). NWS offices may also participate via Social Media platforms throughout the 24 hour period.

5. Station Control Operator: It is suggested that during SRD operations a non-NWS volunteer should serve as a control operator for your station.

6. Event and QSL Information: The National Weather Service will provide event information via the internet. Event certificates will once again be electronic and printable from the main website after the conclusion of SRD.

Editor's note: The website for **SKYWARNtm Recognition Day** is here:

<https://www.weather.gov/crh/skywarnrecognition> Scroll to the bottom of the page. There is a SRD Log Sheet here: https://www.weather.gov/media/crh/skywarn/log_sheet.pdf

Submitted by Ken Holden KB2SFS

ARES NEWS

EVENTS CALENDAR

EVENT 2022	DATE	DATE END	SPONSOR/ORGANIZER	COORDINATOR	CONTACT
Silver State 50/50 race	5/21/22		Silver State Striders	Steve KS6A	ks6a@sbcglobal.net
Stetina Paydirt	5/22/22		John Prouty; Bike Monkey	Bob Miller WA6MTY	wa6mtty@gbis.com
Truckee Dirt Fondo Bike Ride	6/11/22		John Prouty; Bike Monkey	Bob Miller WA6MTY	wa6mtty@gbis.com
Indian Valley Century Bicycle Ride	TBD		Plumas ARC	Larry Trotter KI6YUK	dltrotter@sbcglobal.net
America's Most Beautiful Bike Ride	6/5/22		Tahoe Amateur Radio Assn	Paul Gulbro, WA6EWV	wa6ewv@juno.com
Pony Express Re-Ride	6/6/2022	6/16/22	SIERA	Jeff Cauhape K7BCV	j_cauhape@yahoo.com
Alta Alpina Challenge	6/25/22		Alta Alpina Cycling Club	Jennie Hamiter, KE7YBA	jenniehamiter@mac.com
Running With the Bears	TBD		Plumas ARC	Larry Trotter KI6YUK	dltrotter@sbcglobal.net
Bear Grawl Gravel Grinder	TBD		Plumas ARC	KJ6CUG	dltrotter@sbcglobal.net
Lost and Found Gravel Grinder SBTS	6/22/22		Plumas ARC	Larry Trotter KI6YUK	dltrotter@sbcglobal.net
Death Ride	7/16/22		Tahoe Amateur Radio Assn	Paul Gulbro, WA6EWV	wa6ewv@juno.com
Tahoe Rim Trail	7/15/22	7/17/22	Tahoe Mountain Milers	Bob Miller WA6MTY	wa6mtty@gbis.com
Trailblazer Challenge (two events)	TBD		Make-A-Wish Foundation	Bob Miller WA6MTY	wa6mtty@gbis.com
Vegas to Reno Off Road Race	9/10/22	9/12/22	Best in the Desert Racing Assn	Keith KC7HTK	kc7htkeith@hotmail.com
Tour De Tahoe	9/11/22		Tahoe Amateur Radio Assn	Paul Gulbro, WA6EWV	wa6ewv@juno.com
Reno Air-Races	9/14/22	9/18/22	WC-ARES	Bob Miller WA6MTY	wa6mtty@gbis.com
Grinduro SBTS	TBD		Plumas ARC	Larry Trotter KI6YUK	dltrotter@sbcglobal.net
Nevada Day Parade	10/29/22		NV AREA NW DEC	John Abrott KD7NHC	jabrott77@gmail.com , cell 775 790-1739
Sparks Turkey Trot	11/24/22		WC-ARES	Bob Miller WA6MTY	wa6mtty@gbis.com

Reminder, DEC 11 is my final (for 2021) One Day Ham Cram, Technician & General review and test.

You MUST register [on www.snars.org/oneday](http://www.snars.org/oneday) for all the details and so I can be sure to have enough hand-outs.

Handout re-imburement \$10. You must pass the Technician before July 1 or you will have to purchase a new book.

Bob Miller WA6MTY

Emergency Coordinator for Washoe County

Amateur Radio Emergency Service

775 843-5952

www.wcares.us

wa6mtty@gbis.com

HAM RADIO NIGHT

3rd Monday of each month at 7PM PT on Zoom

Join together and Elmer each other for Ham Radio Night on

December 20, 2021, 8PM

The topic smaller breakout groups will be: **Holiday Cheer**,
Analog VHF/UHF, **DMR/Fusion**, **Build Your Own Projects**

Each participant can move themselves around to different breakout topics in zoom conferencing to enjoy.

If you have any questions or would like to be of service as an Elmer, please contact K6ST Barry k6st@arrl.net

Register below for our next Ham Radio Tech Night, SNARS (virtual on Zoom conferencing)
December 20, 2021 7:00PM PDT

https://us06web.zoom.us/join/register/tZMuduqprDkoGdWSrYZFm_NcR9fRHe2Vhtgm





Board of Directors Meeting Minutes

November 10, 2021 - 6:15PM

At Chin Chin plus Zoom

1. Call to order and roll call at 6:00 PM

Board of Directors:

Anthony Marcin, W7XM	P	Barry Bettman, K6ST	P	John Miller, N7JDM	P
Bill Jones, AE7OX	P	John Byerly, N7ROJ	P	Wes Vick, KG7QXE	P
Jim Shepherd, W6US	P	Doug Edmondo, W7DBE	P		

attendance: None

2. Approval of Minutes - Discussion/Action

The September 2021 meeting minutes were approved

3. Approval of Agenda - Discussion/Action

The Agenda was approved

4. Reports

A. President's Report – Good slate of nominees for the election, Ballots should go out this weekend.

B. Secretary Report – 480 members, new members joining. Tony working on the elections, sent out verification's and received back. Started on ballots / working with Bill on logistics. Planning to get out this weekend. Goes through December 4th 8AM when results will be announced at the board meeting.

C. Treasurer – September 2021 End of Month, Operating: \$9,991, Savings: \$17,553, Self Insurance: \$13,080, Paypal: \$1,692, Convention: \$4,212. Net Monthly \$5,178, net YTD: \$11,211. Memberships 26, Donations year to date \$7,010 (Amazon \$177, Members \$6,756, PayPal \$77)

D. Technical Team – Pat

Waiting on repeaters, no other news

E. Control Operators / Trustee

Nothing to report

F. Education & Youth Activities

1. Working on a more in depth Nano VNA class for 4 hours on December 11th. The board consensus is that we should not charge for the event. We would charge for educational materials or have attendees buy materials – we would charge at cost. SNARS would pay for a meeting location (Donation to church e.g.).
2. Kids Day is first Saturday of January. If Kids day is on the 1st would we move our meeting. Answer is that we would not move our meeting. **(Editor's note: The Board voted at a later date that the meeting would be the SECOND Saturday, Jan 8.)**
3. Barry working to line up a speaker who is versed in Amateur Television for December.

G. Noon Net – Wes working with the N.C.O. team re training.

5. Old Business

Elections – See Tony's report

6. New Business

Bill asked about the plaque add on for Cabellas. Barry needs to follow up.

7. Board member and Public Comments

John B. - Nothing more
Wes V. - Nothing more
Jim S. - Nothing more
Bill J. - Nothing more

John M. - Nothing more
Barry B. - Impressed with 480 members. Thinking about activities
Tony M. - Thinking about next spring's HAM swap. Pacifcon was good but attendance was down.
Doug (Public) - Nothing

8. Adjournment - Action

- A.** Next Meeting: December 8th, 2021. Location Chin Chin plus Zoom
B. Meeting adjourned at 19:01